

REMARKS

Applicants would like to thank the Examiner for the careful consideration and substantive effort given to this case. Claims 1-5, 13-17, 19 and 20 remain pending in this application.

The Examiner has rejected claims 1-5, 13-17, 19 and 20 as being unpatentable under 35 U.S.C. §103(a) over U.S. Patent No. 5,779,486 to *Ho et al.* in light of U.S. Patent No. 6,000,945 to *Sanchez-Lazer et al.* Applicants respectfully traverse the rejection in light of the following remarks.

Claims 1-4

Independent claim 1 incorporates features not disclosed in the prior art cited by the Examiner. For example, neither *Ho et al.* nor *Sanchez-Lazer et al.*, whether considered alone or in combination, discloses “generating a test item variant using a simultaneous constraint solver,” as required by claim 1.

The Examiner correctly states, “*Ho et al.* does not disclose expressly using a simultaneous constraint solver.” The Examiner further states that *Sanchez-Lazer et al.* teaches the use of a simultaneous constraint solver. However, the manner in which *Sanchez-Lazer et al.* uses the simultaneous constraint solver is substantially different from the manner in which the constraint solver is used in claim 1.

Sanchez-Lazer et al. uses its simultaneous constraint solver “to generate tests using an automated item selection algorithm.” *Sanchez-Lazer et al.*, col. 7, ll. 4-5. *Sanchez-Lazer et al.* further requires searching for “at least one characteristic of test items that are needed for the test.” See 3:44-45. In other words, *Sanchez-Lazer et al.* uses at least one test item characteristic to select test items that are appropriate for a particular test from a pool of test items. These selected test items are then assembled together to generate a test.

In contrast, claim 1 requires “generating a test item variant using a simultaneous constraint solver.” In other words, a new test item, which is a variant of an obtained test item, is generated using the constraint solver. The test item variant is not selected from a pool of available test items, but is generated anew.

For at least this reason, claim 1 is allowable over the prior art cited by the Examiner. Because claims 2-4 depend from and incorporate all of the limitations of allowable claim 1, claims 2-4 are likewise allowable over the Examiner-cited prior art.

Claim 5

Independent claim 5 incorporates features not disclosed in the prior art cited by the Examiner. For example, neither *Ho et al.* nor *Sanchez-Lazer et al.*, whether considered alone or in combination, discloses “using a simultaneous constraint solver to determine values for the variables” or “generating test item variants,” as required by claim 5.

The Examiner correctly states, “*Ho et al.* does not disclose expressly using a simultaneous constraint solver.” The Examiner further states that *Sanchez-Lazer et al.* teaches the use of a simultaneous constraint solver. However, the manner in which *Sanchez-Lazer et al.* uses the simultaneous constraint solver is substantially different from the manner in which the constraint solver is used in claim 5.

Sanchez-Lazer et al. uses its simultaneous constraint solver “to generate tests using an automated item selection algorithm.” *Sanchez-Lazer et al.*, col. 7, ll. 4-5. In other words, *Sanchez-Lazer et al.* uses constraints to select items from a pool of generated items that are appropriate for a particular test and then assembles the selected items to generate a test. *Sanchez-Lazer et al.* further requires searching for “at least one characteristic of test items that are needed for the test.” See 3:44-45.

In contrast, claim 5 requires “using a simultaneous constraint solver to determine values for the variables” and “generating test item variants.” Claim 5 makes clear that the variables are identified elements of a test item or a test item model. In other words, values for such identified elements are determined and are used to generate test item variants (i.e., to determine values for the identified elements as part of generating a test item). As such, claim 5 teaches generating a test item variant, not selecting a test item from a pool of test items as is disclosed in *Sanchez-Lazer et al.*

For at least this reason, claim 5 is allowable over the prior art cited by the Examiner.

Claims 13-17, 19 and 20

Independent claim 13 incorporates features not disclosed in the prior art cited by the Examiner. For example, neither *Ho et al.* nor *Sanchez-Lazer et al.*, either alone or in combination, discloses “simultaneously solving test item model constraints and generating test item solutions,” as required by claim 13.

The Examiner states with respect to claim 13 that “Examiner considers test item solutions to be the test items that are generated from the developed constraints.” However, *Sanchez-Lazer et al.* does not disclose the generation of test items from developed constraints. *Sanchez-Lazer et al.* merely discloses the selection of test items based on developed constraints.

For at least this reason and the reasons cited above in reference to claims 1 and 5, claim 13 is allowable over the prior art cited by the Examiner. Because claims 14-17, 19 and 20 depend from and incorporate all of the limitations of allowable claim 13, claims 14-17, 19 and 20 are likewise allowable over the prior art cited by the Examiner.

All of the stated grounds of rejection have been properly traversed, accommodated or rendered moot. Applicants therefore respectfully request that the Examiner reconsider and withdraw all presently outstanding rejections. There being no other rejections, Applicants respectfully request that the current application be allowed and passed to issue.

Because this response is filed in advance of two-months following the issuance of the Final Office Action, Applicants respectfully request an Advisory Action at the Examiner's earliest convenience.

In order to expedite prosecution of this application, if the Examiner does not consider all of the presently presented claims to be allowable, the Applicants hereby request the opportunity for an interview with the Examiner. I invite the Examiner to telephone or e-mail me directly to schedule the interview if necessary.

AUTHORIZATION

The Commissioner is hereby authorized to charge any additional fees which may be required for this Amendment and Response, or credit any overpayment, to deposit account no. 50-0436.

Respectfully submitted,
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